

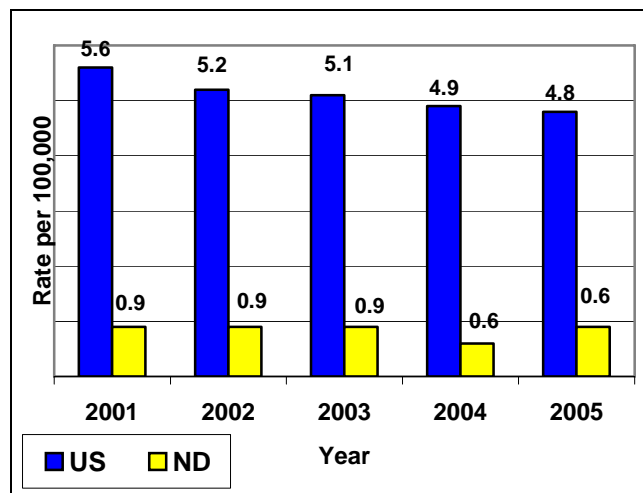
# 2005 Epidemiological Report on Tuberculosis

*North Dakota Department of Health  
Division of Disease Control  
April 2006*

## **TB in North Dakota – 2005**

In 2005, six cases of tuberculosis (TB) were reported in North Dakota. With an incidence rate of 0.9 per 100,000, North Dakota rates continues to be below the national rate (Figure 1).

**Figure 1. United States and North Dakota  
Tuberculosis Disease Rates, 2001-2005**



Three of the tuberculosis cases were pulmonary, two were pulmonary/extra-pulmonary and one was extra-pulmonary. Pulmonary/extra-pulmonary and extra-pulmonary cases involved the liver, bone and spleen.

The ages of the tuberculosis cases ranged from 34 to 63, with a median age of 57. Three were American Indian, two cases were white, and one was Black.

Risk factors associated with tuberculosis in 2005 included belonging to a high-risk racial/ethnic group, being foreign-born, history of being a resident of a high-risk congregate setting and having prior tuberculosis infection.

Two tuberculosis-related deaths were reported in 2005.

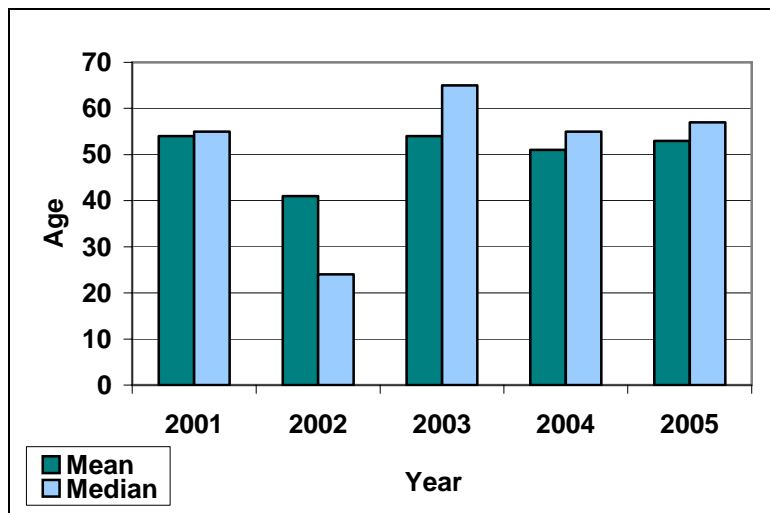
## **TB in North Dakota – 2001-2005**

From 2001 through 2005, 28 cases of tuberculosis were reported in North Dakota. The number of annual tuberculosis cases ranged from four to six, resulting in an incidence rate of between 0.6 and 0.9 per 100,000.

Of the 28 cases, 15 were pulmonary (53%), 10 were extra-pulmonary (36%) and three were pulmonary/extra-pulmonary (11%). Sixty-four percent of the tuberculosis cases were age fifty and older. The mean and median ages of tuberculosis cases during the past five years were 51 and 55 respectively.

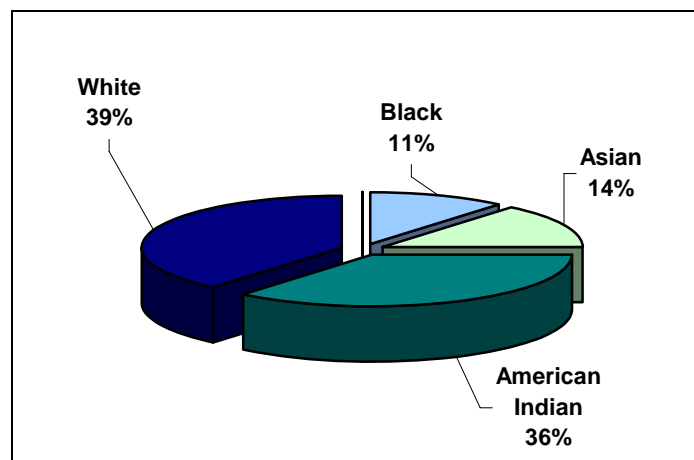
As shown in Figure 2, the median age in 2002 was lower than in previous years. This is due to the diagnosis of disease in four adults between the ages of 21 to 25 years.

**Figure 2. Tuberculosis by Age, North Dakota, 2001-2005**



The race/ethnicity of tuberculosis cases during the past five years shows a disproportionately high number of the cases reported among minority populations. Cumulatively, American Indians, blacks and Asians account for only six percent of North Dakota's population but more than half of the states' reported TB cases.

**Figure 3. Percentage of Tuberculosis Cases by Race/Ethnicity, North Dakota, 2001-2005**



An increase in the state's racial/ethnic populations during the past few years has contributed to the increased number of tuberculosis cases reported in these racial/ethnic groups. While the number of foreign-born people in the state represents less than two percent of the state's total population, it increased 29 percent between 1990 and 2000.

### **Drug-Resistant Tuberculosis**

Drug resistant tuberculosis (DR-TB) and multi-drug resistant tuberculosis (MDR-TB) present difficult problems for tuberculosis control. This is due to the complicated treatment regimen for the index case and the treatment of latent tuberculosis infection in contacts to the index case. The contact's treatment

regimen must be individualized based on the index case's medication history and drug susceptibility studies.

With the increase in foreign-born populations entering the United States and North Dakota, the potential exists for an increase of DR-TB. During the past five years, however, there have been no cases of multidrug-resistant tuberculosis identified in North Dakota. Furthermore, only one case of single-drug resistance has been identified; an isolate in 2002 was resistant to streptomycin.

### **Latent Tuberculosis Infection**

Latent TB infection (LTBI) occurs when individuals are infected with *M. tuberculosis* bacteria through direct exposure to active tuberculosis disease.

People with infection do not have active disease and are not infectious. Clinical findings of LTBI normally include a positive tuberculin skin test, absence of symptoms and a normal chest x-ray.

The number of tuberculosis infections reported in North Dakota over the past five years is shown in Table 3.

**Table 3. Reported Cases of LTBI  
North Dakota, 2001-2005**

| <b>2001</b> | <b>2002</b> | <b>2003</b> | <b>2004</b> | <b>2005</b> |
|-------------|-------------|-------------|-------------|-------------|
| 368         | 304         | 321         | 384         | 315         |